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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,894	03/23/2004	Larry S. Eoff	2001-IP-005267U1P2	2392

7590 07/03/2006

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EXAMINER

FIGUEROA, JOHN J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/806,894	Applicant(s) EOFF ET AL.	
	Examiner John J. Figueroa	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 11-68 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. <u>20060625</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/24/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-38, drawn to a method of reducing the permeability of a subterranean formation, classified in class 507, subclass 110.
 - II. Claims 39-40, drawn to a method of drilling a wellbore using a hydrophobically-modified polymer, classified in class 507, subclass 117+.
 - III. Claim 41, drawn to drawn to a method of drilling a wellbore using a hydrophilically-modified polymer, classified in class 507, subclass 117.
 - IV. Claims 42-55, drawn to a drilling fluid composition comprising a hydrophobically-modified polymer, classified in class 507, subclass 203+.
 - V. Claims 56-68, drawn to a drilling fluid composition comprising a hydrophilically-modified polymer, classified in class 507, subclass 203+.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions IV and V are related to I as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the fluid composition can be used in a well bore completion/cementing operation.

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3. Invention IV and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the fluid composition can be used in a well bore completion/cementing operation.

4. Invention V and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the fluid composition can be used in a well bore completion/cementing operation.

5. In the instant case. Inventions I, II and III are directed to related process of use. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j).

In the instant case: the methods of reducing permeability of a formation involve compositions having patentably distinct water-soluble polymers. Group I is drawn to a method of reducing the permeability of a subterranean formation, whereas Groups IV and V are both drawn to drilling fluid compositions.

Moreover, the process of use claimed in Group IV is patentably distinct from the process of Group V because the drilling composition recited in Group IV comprises a water-soluble polymer that is a *hydrophobically*-modified copolymer having hydrophobic side chains, whereas in Groups V, said polymer is instead a *hydrophilically*-modified copolymer having hydrophilic side chains.

6. Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

7. This application contains claims directed to the following patentably distinct species in Group I: Hydrophobically-modified polymer v. hydrophilically-modified polymer. The species are independent or distinct because drawn to different chemical structure: the hydrophobically-modified polymer contains hydrophobic side chains whereas the hydrophilically-modified polymer contains hydrophilic side chains. Election of species is required between the two said polymers.

In addition, the hydrophobically-modified polymer is formed by a hydrophobic compound and a hydrophilic polymer, whereas the hydrophilically-modified polymer is formed by a hydrophilic compound and a hydrophilic polymer. An election of species is required for the hydrophilic polymer and either the hydrophobic compound or the hydrophilic compound depending on the species chosen above for the modified polymer.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is

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finally held to be allowable. Currently, claim 36 is a linking claim because it recites both hydrophobically-modified and hydrophilically-modified polymer

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

8. During a telephone conversation with Robert Kent on June 3, 2006 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-38 and chitosan and alkali halide as the species for the hydrophobically-modified polymer. Affirmation of this election must be made by applicant in replying to this Office action.

Claims 39-68 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. In addition, claims 7 and 11-39 are withdrawn because they are drawn to distinct species.

9. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Information Disclosure Statement

10. The information disclosure statement filed September 7, 2004, April 15, 2005, June 6, 2005 and May 30, 2006 listed documents from that were cited in another IDS filed with this application. The documents that were cited elsewhere in other submitted IDS have been crossed out on the corresponding PTO-1449 form. Moreover, the IDS filed on July 11, 2005 listed the instant application (10/760,443) on the corresponding PTO-1449 form. It was, of course, also crossed out.

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

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1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 1-18 and 36-38 are rejected on the ground of nonstatutory double patenting over claims 1-3, 6-8, 13-15 and 17-19 of U. S. Patent No. 6,476,179 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: the claims in both patents are drawn to a method of treating a subterranean formation to alter the permeability of the formation by introducing a hydrophobically-modified hydrophilic polymer as an relative permeability modifier (RPM).

13. Claims 1-18 and 36-38 are provisionally rejected on the ground of nonstatutory double patenting over claims 1-17 and 21-28 of copending Application No. 10/612,271.

This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: both sets of claims are drawn to a method of stimulating/treating a subterranean formation comprising introducing a RPM containing a hydrophobically-modified water-soluble polymer.

14. Claims 1-38 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting over claims 1-45 of copending Application No. 10/780,995. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: both sets of claims are drawn to a method of treating a subterranean formation comprising introducing a RPM containing a hydrophobically- or a hydrophilically-modified water-soluble polymer.

15. Claims 19-38 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 44-52 of copending Application No. 10/825,001. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: both sets of claims are drawn to a method of treating a subterranean formation comprising introducing a RPM containing a hydrophilically-modified water-soluble polymer.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claims 1-6 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by PCT Application Publication WO 03/056130 A1 to Couillet et al. (hereinafter 'Couillet').

Couillet discloses a method for fracturing/treating a subterranean formation to substantially alter the fluid flow (permeability) and/or surface characteristics of the formation, said method including introducing into the formation an aqueous fracturing viscoelastic composition containing a water-soluble hydrophobically-modified polymer having hydrophobic chains of approximately 12-24 carbons and a molecular weight between 10,000 and 10,000,000 g/mol. (Abstract; page 1, lines 1-24; page. 4, line 10 to page 5. line 22; page 8, lines 26-32; page 11, line 28 to page 12, line 19; page 13, lines

5-9; page 19, lines 18-32; See, e.g., Examples 12-14 disclosing studies of the leak properties (fluid-loss permeability) of sample drilling fluids)

Couillet further discloses that the polymer backbone can be a polysaccharide or a derivative thereof, such as chitin or chitosan, having a molecular weight around 100,000 to 500,000 g/mol; wherein the chitosan can be modified via an acylation reaction (i.e. formed by an alkylation reaction of a chitosan hydrophilic backbone involving an alkali halide, such as an alkyl chloride). (Page 12, line 21 to page 13, line 31; See Example 10 and Figures 15-16 disclosing a drilling fluid comprising from about 1 to 10% modified chitosan having an 11-carbon hydrophobic side chain)

Thus, the claims are anticipated by Couillet.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Mon-Thurs & alt. Fri 8:00-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJF/RAG

A handwritten signature in black ink, appearing to read "Randy Gulakowski", is positioned above the printed name and title.

RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700